

Department of Energy

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APPENDIX D TO PART 835—SURFACE CONTAMINATION VALUES

APPENDIX E TO PART 835—VALUES FOR ESTABLISHING SEALED RADIOACTIVE SOURCE ACCOUNTABILITY AND RADIOACTIVE MATERIAL POSTING AND LABELING REQUIREMENTS

AUTHORITY: 42 U.S.C. 2201, 7191; 50 U.S.C. 2410.

SOURCE: 58 FR 65485, Dec. 14, 1993, unless otherwise noted.

Subpart A—General Provisions

§ 835.1 Scope.

(a) *General.* The rules in this part establish radiation protection standards, limits, and program requirements for protecting individuals from ionizing radiation resulting from the conduct of DOE activities.

(b) *Exclusion.* Except as provided in paragraph (c) of this section, the requirements in this part do not apply to:

(1) Activities that are regulated through a license by the Nuclear Regulatory Commission or a State under an Agreement with the Nuclear Regulatory Commission, including activities certified by the Nuclear Regulatory Commission under section 1701 of the Atomic Energy Act;

(2) Activities conducted under the authority of the Deputy Administrator for Naval Reactors, as described in Pub. L. 98–525 and 106–65;

(3) Activities conducted under the Nuclear Explosives and Weapons Surety Program relating to the prevention of accidental or unauthorized nuclear detonations;

(4) DOE activities conducted outside the United States on territory under the jurisdiction of a foreign government to the extent governed by occupational radiation protection requirements agreed to between the United States and the cognizant government;

(5) Background radiation, radiation doses received as a patient for the purposes of medical diagnosis or therapy, or radiation doses received from participation as a subject in medical research programs; or

(6) Radioactive material on or within material, equipment, and real property which is approved for release when the radiological conditions of the material, equipment, and real property have been

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documented to comply with the criteria for release set forth in a DOE authorized limit which has been approved by a Secretarial Officer in consultation with the Chief Health, Safety and Security Officer.

(7) Radioactive material transportation not performed by DOE or a DOE contractor.

(c) Occupational doses received as a result of excluded activities and radioactive material transportation listed in paragraphs (b)(1) through (b)(4) and (b)(7) of this section, shall be included to the extent practicable when determining compliance with the occupational dose limits at §§ 835.202 and 835.207, and with the limits for the embryo/fetus at § 835.206. Occupational doses resulting from authorized emergency exposures and planned special exposures shall not be considered when determining compliance with the dose limits at §§ 835.202 and 835.207.

(d) The requirements in subparts F and G of this part do not apply to radioactive material transportation by DOE or a DOE contractor conducted:

(1) Under the continuous observation and control of an individual who is knowledgeable of and implements required exposure control measures, or

(2) In accordance with Department of Transportation regulations or DOE orders that govern such movements.

[58 FR 65485, Dec. 14, 1993, as amended at 63 FR 59679, Nov. 4, 1998; 71 FR 68733, Nov. 28, 2006; 72 FR 31922, June 8, 2007]

§ 835.2 Definitions.

(a) As used in this part:

Accountable sealed radioactive source means a sealed radioactive source having a half-life equal to or greater than 30 days and an isotopic activity equal to or greater than the corresponding value provided in appendix E of this part.

Activity Median Aerodynamic Diameter (AMAD) means a particle size in an aerosol where fifty percent of the activity in the aerosol is associated with particles of aerodynamic diameter greater than the AMAD.

Airborne radioactive material or airborne radioactivity means radioactive material dispersed in the air in the form of dusts, fumes, particulates, mists, vapors, or gases.

Airborne radioactivity area means any area, accessible to individuals, where:

(1) The concentration of airborne radioactivity, above natural background, exceeds or is likely to exceed the derived air concentration (DAC) values listed in appendix A or appendix C of this part; or

(2) An individual present in the area without respiratory protection could receive an intake exceeding 12 DAC-hours in a week.

ALARA means “As Low As is Reasonably Achievable,” which is the approach to radiation protection to manage and control exposures (both individual and collective) to the work force and to the general public to as low as is reasonable, taking into account social, technical, economic, practical, and public policy considerations. As used in this part, ALARA is not a dose limit but a process which has the objective of attaining doses as far below the applicable limits of this part as is reasonably achievable.

Annual limit on intake (ALI) means the derived limit for the amount of radioactive material taken into the body of an adult worker by inhalation or ingestion in a year. ALI is the smaller value of intake of a given radionuclide in a year by the reference man (ICRP Publication 23) that would result in a committed effective dose of 5 rems (0.05 sieverts (Sv)) (1 rem = 0.01 Sv) or a committed equivalent dose of 50 rems (0.5 Sv) to any individual organ or tissue. ALI values for intake by ingestion and inhalation of selected radionuclides are based on International Commission on Radiological Protection Publication 68, *Dose Coefficients for Intakes of Radionuclides by Workers*, published July, 1994 (ISBN 0 08 042651 4). This document is available from Elsevier Science Inc., Tarrytown, NY.

Authorized limit means a limit on the concentration of residual radioactive material on the surfaces or within the property that has been derived consistent with DOE directives including the as low as is reasonably achievable (ALARA) process requirements, given the anticipated use of the property and has been authorized by DOE to permit the release of the property from DOE radiological control.

Background means radiation from: